

STEAMLESS STEAMSHIP MADE POSSIBLE BY DIESEL

SELANDIA, LARGEST OIL-DRIVEN SHIP AFLOAT, EQUIPPED WITH
DIESEL ENGINE.



DR. RUDOLPH DIESEL OF MUNICH

Who has invented a combustion engine which makes pound of crude oil do work of three and half pound of coal.

Local attention has been attracted to the wonderful Diesel engine, which makes the steamless steamship possible, through a discussion of the invention at a meeting last week of the Hawaiian Engineering Association, when W. J. Dyer of the Honolulu Iron Works read a paper on the new engine and Alonzo Gartley and J. E. Sheedy eulogized the invention.

In the June number of Hearst's Magazine, Henry Smith Williams, M. D., L.L.D., gives the following interesting account of the new engine and its successful application to the Selandia, a 5000-ton Danish vessel which is the first big steamless steamship.

"A few weeks ago there tied up at a London dock a vessel of about 5000 tons burthen, which to any casual observer would have seemed rather an ordinary looking steamship were it not for one striking peculiarity—namely, the absence of smokestacks. The vessel flew the Danish flag and bore the name Selandia.

Invention of Dr. Diesel.

"The oil engine which thus threatens the supremacy of the steam engine is the invention of Dr. Rudolf Diesel of Munich. The inventor has met the usual difficulty in bringing his invention to the attention of the commercial world. But the success he has now achieved justifies, in a measure at least, the glowing predictions in which he declared that his invention would make impossible a repetition of England's late disasters in the coal strike, when two and a half million men were out of work; when British railways were running on half schedule; when many ships were tied up at their docks for want of coal; and when the entire industrial activity of England was temporarily in check.

"Dr. Diesel declares that his engine permanently breaks the monopoly of coal. For he has solved the problem of using liquid fuel for power production in its simplest and most general form. Any of the natural liquid fuels can be used—and, what is more, used simply and economically.

Passed Its Probation.

"The Diesel engine has passed its period of probation during which it has been used successfully in small engines of many types. Now, numerous vessels, some of them even larger than the Selandia, are building. The interest of the British Admiralty has already been referred to. It is said that the German Admiralty is building a cruiser to be equipped with two six-cylinder engines each of 6000-horsepower. A sister ship to the Selandia is approaching completion at a shipyard on the Clyde, and the East Asiatic Company is reported to have given orders for two similar vessels, and for two cargo vessels, all to be equipped with Diesel engines.

"The explanation of the popularity of the new engine is not far to seek. It is founded on efficiency and on cheapness of operation. Tests have been made on large Diesel engines, showing the consumption of only 0.38 pound of fuel per brake horsepower hour. Marine engines actually in use average 0.4 to 0.44 pounds of fuel per brake horsepower hour, running under full load.

"Contrast these figures with the 1.46 pounds of coal required to produce the same result, and it will be clear that the champions of the new engine are not mere visionaries.

"It is estimated that the Diesel engine would drive a ship as fast and as far with 100 tons of fuel as the best steam engine would with 350 tons of coal. As the liquid fuel may be stored in tanks placed in the double bottom of the ship, there is an obvious saving in space that is of great importance.

"The Diesel engines themselves in the Selandia occupy about as much space as the engine equipment alone of the ordinary steam plant; but even in this regard, a further economy of space will be possible. Meantime, the engine room of the new craft is not only guiltless of dust and smoke, but is cool and comfortable.

Engines in Two Sets.

"The engines of the Selandia are in two sets, each having eight cylinders

of 20.8 inches by 28.7 inches, giving together 2500 indicated horsepower at 140 revolutions per minute. The general appearance of the engines is that of ordinary reciprocating steam engines.

The operation of the engine may be briefly described thus: The upward stroke of the piston sucks air into the cylinder. The return stroke compresses the air to about 20 atmospheres, and hence heats it to a high degree of temperature. A spray of oil is then injected into the compressed and superheated air. The heat of the compressed air ignites the oil spray spontaneously, so that its combustion is effected without the use of any igniter such as is used with gasoline engines. This obviously simplifies the action of the engine, and the method of operation permits the use of any crude oil.

"It will be obvious that the Diesel engine is a modification of other types of oil engines, and not in itself an absolutely new creation. It will be clear also that its operation is the four-cycle stroke familiar as the Otto cycle. Like the gasoline engine, it can be so constructed as to operate on a two-cycle principle.

Unique Feature.

"In these respects the Diesel engine offers no novelties. Its unique feature is the utilization of compressed air, which does away with special apparatus for igniting the oil. The fact that crude oil of any type may be used gives it vast commercial importance. The oil is blown in by air under pressure of something like 1000 pounds to the inch, which operates precisely on the principle of the ordinary hand atomizer. The explosive mixture, then, consists of fine particles of oil in a medium of compressed air.

"One recalls the explosions of coal dust in mines and the explosions that sometimes occur in mills when the air is saturated with flour dust; and the thought comes to mind that a Diesel engine might be so modified as to use coal dust or flour or starch granules from any source as a substitute for oil, in an emergency. Such a conceivability—however visionary at the moment—suggests a possible solution of the exhaustion-of-coal problem that has at least the merit of novelty."

FIVE MEN WANTED AS EXECUTIONERS

RENO, Nev., Aug. 11.—George W. Cowing, warden of the Nevada state prison, wants five men ready and willing to shoot down a man in cold blood on the morning of August 23. Cowing has made an effort to secure men for this gruesome job, but has failed and is at his wits end to meet a startling situation.

The first man convicted of murder since the new statutes have gone into effect, granting him the privilege of death, either by shooting or hanging, has selected death by shooting. The date set for the execution is August 23.

The law requires that the condemned man be blindfolded, placed in a chair, a target hung over his head

and five men armed with rifles shoot him in cold blood.

The same law is in effect in Utah. There penitentiary guards have carried out the death penalty.

In Nevada, however, Warden Cowing is unable to induce five men to undertake the job. Four of the rifles are loaded with ball cartridges, while one rifle is merely a blank. The rifles are shuffled and no one knows who really has the rifle that is a blank. The shooting squad is concealed behind black curtains.

The new law went into effect January 1 and Andriji Mirkovich of Tonah is the first man to take advantage of the choice of death. He asked to be shot.

Warden Cowing is anxious to carry out the sentence, but can find no one to do the work. He is in a quandary.

"And those long, silent pauses in your speech—I didn't quite understand them?"

"Perhaps not. Those were the points where I had written 'laughter' and 'applause' into my manuscript.

On the edge of a small river in the County of Cavan, in Ireland is a stone with the following strange inscription, no doubt intended for the information of strangers traveling that way: "N. B.—When this stone is out of sight it is unsafe to ford the river."

Four-In-Hand Ties Of Unusual Beauty

These ties have just been received and are examples of the latest ideas in shapes and patterns. They represent the best in the tie-makers' art. You will like them.

50c, 75c, \$1.00

Silva's Toggery, Ltd.,

ELKS' BUILDING

"The Store for Good Clothes"

KING STREET

German Confectionery

1183 ALAKEA STREET

NEXT TO GAS COMPANY OFFICE

Phone 3793

Coffee Cake Honey Cake Cream Puffs
Doughnuts with Jam
Toasted Coffee Bread All kinds of Pastry
Fresh Caramel Candies—only ones in town
Ice Cream and Sherbet



LAUNDRY MESSANGER DAY
PARCEL DELIVERY

PHONE 1881

We know everybody and understand the business.

Cadillac 1913

Any car at any price which you choose to compare with this new Cadillac will be honored by comparison

Long stroke engine. More power. Silent chain-driven camshaft; enclosed valves; quiet engine. Longer wheelbase; larger tires. Electrical system of automatic cranking, lighting and ignition simplified and improved; automatic spark control. Numerous refinements of essential details.

You will bear witness that the Cadillac case has never been overstated. Hold to that thought, please, in considering what we shall say of this new car. Cadillac practice has progressively improved upon itself season after season. It has now reached a point which, we believe, warrants us in thinking that comparison of the choicest cars with the Cadillac will hereafter confer a distinction upon those cars, rather than otherwise. For several years we have calmly observed the rapid rise of the Cadillac in public opinion. Each year we have seen the little group of its equals in popular esteem narrowed down. Each year we have seen a higher and higher price named as the basis of comparison with the Cadillac.

And we believe that basis of price comparison is about to vanish altogether. We believe that the last mental reservation is about to remove itself from the public mind. We ourselves have felt serenely sure for a long time that in point of real and substantial value the line of demarcation between cars of highest price and the Cadillac was an imaginary line. We have felt that it was written in water, like the international boundary lines in the ocean—and we feel that this new Cadillac will complete the process of so convincing the public. The advent of such a car at the Cadillac price is, of course, a matter of genuine moment; and you will be interested, therefore, in this news concerning it.

A few of the improvements in the 1913 Cadillac

LONG STROKE ENGINE:—4½" bore by 5½" stroke, increasing the power of the always extraordinarily efficient Cadillac engine. This amplification of power is especially observable at speeds from 12 to 35 miles an hour, dynamometer tests registering an increase of from 18 to 25 per cent.

SILENT CHAIN-DRIVEN cam shaft, also pump and generator shaft, replacing meshed gears, in conjunction with:

ENCLOSED VALVES, and the superb workmanship throughout in which the Cadillac has always excelled, producing an engine which runs with unusual quietness.

CARBURETOR:—A carburetor of marked efficiency and simplicity has been adopted, simplified, now requiring but a single means of adjustment, reducing it to the greatest possible degree, the necessity of attention.

AUTOMATIC ELECTRIC CRANKING DEVICE, ELECTRIC LIGHTS,

IGNITION:—A vastly simplified and improved Delco system developed at the instigation of the Cadillac Company for Cadillac cars, the result of experience with the old system on twelve thousand 1912 models.

While the old system demonstrated itself to be by far the most efficient for its purposes that had ever been developed, the Cadillac Company has evolved means of increasing the efficiency to as near the 100 per cent point as any mechanical appliance could be. Among the simplifications are the successful adoption of the single instead of double voltage system, thereby eliminating the controlling switch, the meter, much wiring and other parts. The meter is replaced by a voltage regulator which automatically governs the charging rate of the battery, reducing to an absolute minimum the attention required on the part of the user. The switches for starting, lighting and ignition, the latter equipped with Yale lock, are more

conveniently located. Lights are provided with fuses. These and other advantages will be enjoyed by users of the 1913 Cadillac.

AUTOMATIC SPARK CONTROL:—Relieving the driver of the necessity of constant attention in order to secure the maximum results.

LONGER WHEELBASE:—The easy riding qualities of a car which has been regarded as the acme of luxury are accentuated by an increase in the length of the wheel base from 116 to 120 inches, and a corresponding increase in the length of rear springs.

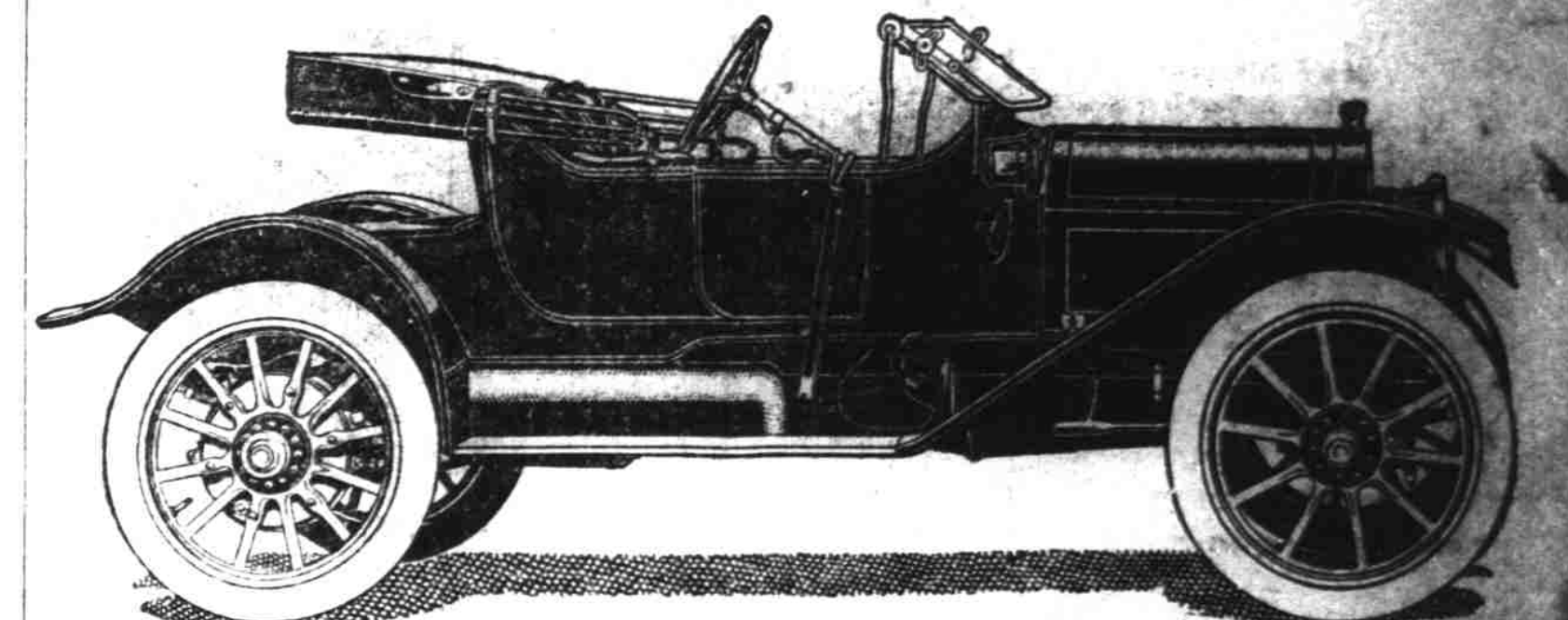
TIRES:—Increased from 36"x4" to 36"x4½", with the obvious advantages resulting therefrom. Demountable rims.

EQUIPMENT:—Cadillac top and windshield included. See specifications.

SPECIFICATIONS IN BRIEF

ENGINE:—Long stroke, 4½-inch bore by 5½-inch stroke; four-cylinder, silent chain-driven cam shaft, also pump and generator shaft, enclosed valves. Five-bearing crankshaft. **HORSE-POWER:** 40-50. **COOLING:**—Water pump driven by crankshaft. **CENTRIFUGAL PUMP:** radiator tubular and plate type. **IGNITION:**—See "Equipment." **LUBRICATION:**—Automatic splash system, oil uniformly distributed. **CARBURETOR:**—Special Cadillac design of maximum efficiency water-jacketed. Air adjustable from driver's seat. **CLUTCH:**—One type a large, leather faced with special spring ring in fly wheel. **TRANSMISSION:**—Sliding gear, selective type, three speeds forward and reverse. **AXLES:**—Front axle large, running on five Hess-Bright ball bearings. **DRIVE SHAFT:**—Hand gear-change lever and emergency brake lever at driver's right, inside the car. Service brake, foot lever, clutch, foot lever. Throttle accelerator, foot lever. Spark and throttle levers at driver's wheel. **CARBURETOR:**—Carburetor air adjustment, hand lever under steering wheel. **DRIVE:**—Direct shaft to level gears of special cut teeth to afford maximum strength. Drive shaft runs on Timken bearing. **AXLES:**—Front, Timken full floating type; special alloy steel live axle shaft; Timken

roller bearing. Front axle, drop forged I beam section with drop forged yokes, spring perches, tie rod ends and roller bearing steering spindles. Front wheels fitted with Timken bearings. **BRAKES:**—One internal and one external brake direct on wheels, 16-inch by 2½-inch drums. Exceptionally easy in operation. Both equipped with equalizers. **STEERING GEAR:**—Cadillac patented worm and worm gear, sector type, adjustable. 18-inch steering wheel with walnut rim; aluminum spider. **WHEEL BASE:**—120 inches. **TIRES:**—36-inch by 4½-inch Hartford or Morgan & Wright; demountable rims. **SPRINGS:**—Front, semi-elliptical. Rear, three-quarter platform. **FINISH:**—Cadillac blue throughout, including wheels; light striping, nickel trimmings. **STANDARD EQUIPMENT:**—Cadillac mohair top, wind shield, Delco patented electrical system embodying automatic cranking device, electric lights and ignition. Automatic spark advance. Also Delco distributor ignition system. Gray & Davis lamps especially designed for Cadillac cars, black enamel with nickel trimmings; two headlights; two side lights, tail light. Horn gasoline gauge on dash; horn, full foot rail in tonneau; robe rail, the iron; set of tools, including pump and tire repair kit; cocoa mat in all tonneaus except closed cars. Speedometer, Warner, with electric fuel



CADILLAC MOTOR CAR COMPANY, DETROIT, MICHIGAN

THE VON HAMM-YOUNG CO., LTD.,

Agents

PRICE OF STANDARD TOURING CAR, PHAETON, TORPEDO, AND ROADSTER, \$1975.00, F.O.B. DETROIT, INCLUDING STANDARD EQUIPMENT